

EXHIBIT 12

Selective Coating Equipment Comparison



| | PVA350 | PVA650 | PVA2000 | PVA6000 |
|----------------------------|---|---|---|---|
| Repeatability | .025mm | .025mm | .025mm | .025mm |
| Max Speed | 500mm/sec | 670mm/sec | 670mm/sec | 670mm/sec |
| Encoder Resolution | 5 micron | 5 micron | 5 micron | 5 micron |
| Gantry Drive System | Closed Loop DC servo, Ballscrew Drive | Closed Loop DC servo, Ballscrew Drive | Closed Loop DC servo, Ballscrew Drive | Closed Loop DC servo, Ballscrew Drive |
| Max Acceleration | 0.25 g | 0.5 g | 0.5 g | 0.5 g |
| Travel | | | | |
| Initial XY Axis Travel | 400mm x 400mm | 500mm x 500mm | 500mm x 500mm | 500mm x 500mm |
| Z Axis Travel | 90mm | 90mm | 100mm | 100mm |
| Board Handling | | | | |
| Conveyor Type | N/A | Flat Edge Belt or Chain | Flat Edge Belt or Chain | Flat Edge Belt or Chain |
| Min Conveyor Width | N/A | 50mm | 50mm | 50mm |
| Above Board Clearance | 70mm | 70mm | 62mm (standard) 100+mm (optional) | 75mm (standard) 100+mm (optional) |
| Under Board Clearance | 80mm | 70mm | 100mm (standard) | 100mm (standard) |
| Transport Height | N/A | 940mm to 965mm | 940mm to 965mm | 940mm to 965mm |
| Conveyor Protocol | N/A | SMEMA | SMEMA | SMEMA |
| Standard Board Sizes | Up to 380mm Depending on Options | 50mm-457mm Depending on Options | 50mm-457mm Depending on Options | 50mm-457mm Depending on Options |
| Facilities | | | | |
| Power | 120 to 240 VAC, 50/60hz | 120 to 240 VAC, 50/60hz | 120 to 240 VAC, 50/60hz | 120 to 240 VAC, 50/60hz |
| Air Supply | <10 CFM at > 80 PSI (5.5 bar) Filtered @ 5microns | <10 CFM at > 80 PSI (5.5 bar) Filtered @ 5microns | <10 CFM at > 80 PSI (5.5 bar) Filtered @ 5microns | <10 CFM at > 80 PSI (5.5 bar) Filtered @ 5microns |
| Footprint | 945mm x 832mm x 794mm | 1219mm x 941mm x 1607mm | 1219mm x 1097mm x 1651mm | 1219mm x 1257mm x 1687mm |
| Exhaust | 300cfm minimum | 300cfm minimum | 300cfm minimum | 300cfm minimum |
| Features | | | | |
| Four-Axis | Option | Option | Option | Option |
| Bar Code Reading | Option | Option | Option | Option |
| Passive Programming Camera | Option | Option | Option | Option |
| XY Fiducial Camera | Option | Option | Option | Option |
| Part Shuttles | Option | Option | Option | Option |
| Exhaust Blower | Option | Option | Option | Option |
| PathMaster Software | Standard | Standard | Standard | Standard |
| Offline Programming | Standard | Standard | Standard | Standard |
| Onboard Computer | Option | Standard | Option | Standard |
| Flow Monitoring | Option | Option | Option | Option |
| Dual/Multi Head Tooling | Option | Option | Option | Option |

PVA Patents

PVA holds four US patents, including the only **TRUE** four-axis motion capability featuring patented tilt and servo rotation control (4 axis patent – #6447847), and the atomized spray valve technology (ES Valve patent – #6523757).



www.pva.net